EXECUTIVE SUMMARY

Swanson River Satellites Natural Gas Exploration and Development Project

Final Environmental Impact Statement

The Swanson River Satellites (SRS) Natural Gas Exploration and Development Project Final Environmental Impact Statement (FEIS) provides public comments and responses and supplemental information to the Draft Environmental Impact Statement (DEIS) for the project. The U.S. Fish and Wildlife Service (USFWS) published a DEIS for the proposed project in July 2002. A Notice of Availability of the DEIS was published in the Federal Register (67 FR 50453) on August 2, 2002, and comments from the public were solicited. Public hearings on the project were held in Soldotna, Alaska, on September 2002, and in Arlington, Virginia, on September 17, 2002.

At the conclusion of the Public Comment period on October 1, 2002, over 4,000 respondents had provided written commentary. The majority of respondents forwarded a copy of an e-mail letter marking opposition to the project. Approximately 85 unique letters were received.

This FEIS does not replace the DEIS, but addresses the public comments received, and provides supplemental information not included in the DEIS.

THE PROPOSED ACTION

The USFWS is evaluating a right-of-way (ROW) permit application for a proposed natural gas exploration and development project within the Kenai National Wildlife Refuge (KNWR), Kenai Peninsula, Alaska, and is the lead agency for preparing this EIS. The U.S. Bureau of Land Management (BLM) and U.S. Army Corps of Engineers (USACE) are cooperating agencies. The BLM issues a permit to drill where federal oil and gas leases exist, while the USACE issues a permit for the placement of fill material in waters of the United States under Section 404 of the Clean Water Act. This FEIS has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) and regulations at 40 Code of Federal Regulations (CFR) Parts 1500-1508.

THE PROJECT AREA

The Project Area lies within the boundaries of the KNWR, a Conservation System Unit (CSU) established by the Alaska National Interest Lands Conservation Act (ANILCA), Public Law (PL) 96-487, and managed by the USFWS. Prior Federal oil and gas leasing in the area led to the development of the Swanson River Field (SRF), which has been in active production on the KNWR since the 1960s. The proposed action would allow for exploration and production of natural gas on existing Federal leases and private inholdings located to the north and east of the SRF. The two arms of the project are entitled North SRS and East SRS.

Because of land conveyances under the Alaska Native Claims Settlement Act (ANCSA) (PL 92-203 [as amended by PL 94-204]), and prior Federal oil and gas leasing activity, there is a variety of surface and subsurface land ownership within the Project Area.

The East SRS encompasses KNWR lands; however, the coal, oil and gas resources have been conveyed to Cook Inlet Region, Incorporated (CIRI). Development of CIRI's entitlement is governed by the Terms and Conditions for Land Consolidation and Management in the Cook Inlet Area (T&C), and Title XI of ANILCA. The North SRS involves both KNWR lands, and surface lands that have been conveyed to the Tyonek Native Corporation (TNC). The natural gas resources to be developed in the North SRS have been leased by the Federal Government within the Birch Hill Unit (BHU). The development of these resources is governed by the Mineral Leasing Act, and Title XI of ANILCA. For both satellites, the pertinent land rights constitute inholdings within the KNWR.

Section 1110 (b) of ANILCA requires that owners of valid inholdings be given adequate and feasible access for economic and other purposes, subject to reasonable regulations to protect the natural and other values of the KNWR. In addition, provisions of the T&C require the KNWR to make available sand and gravel as is reasonably necessary for the construction of facilities and ROWs appurtenant to the exercise of the rights conveyed to CIRI by the United States

THE PROPOSED PROJECT

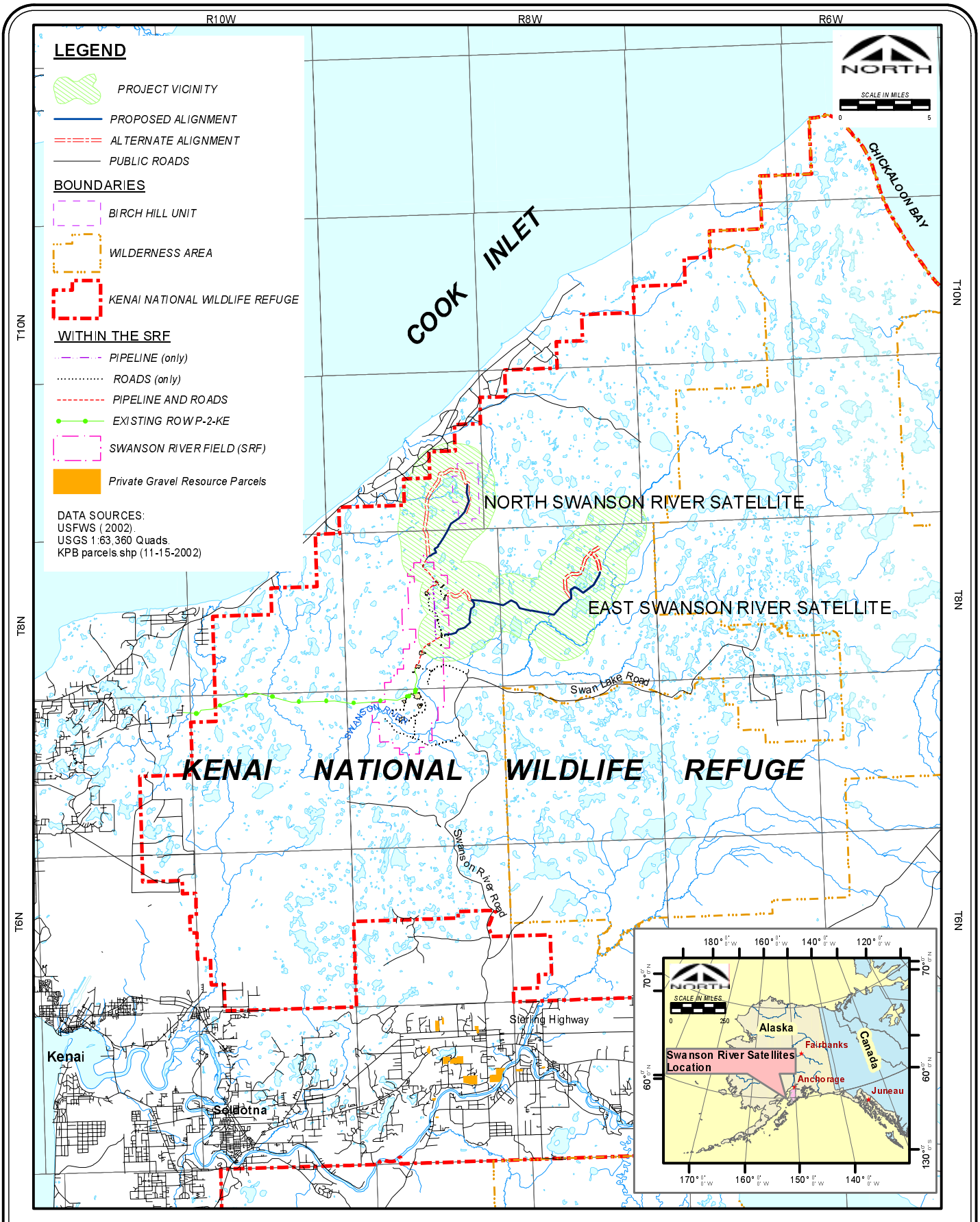
In January 2001, Union Oil Company of California (Unocal) submitted a ROW application to the USFWS to conduct exploration and production at two natural gas fields, known as the East and North SRS. Throughout this FEIS, reference is made to Unocal as the applicant, although the project would be implemented as a partnership that includes Marathon Oil Company (Marathon) and CIRI.

Figure ES-1 shows the location of the Proposed Project. The East SRS is located approximately 5 miles east of the existing SRF and the North SRS is located approximately 3 miles north of the existing SRF. The Proposed Project does not include oil development, and oil development would not be authorized under this ROW Permit.

This FEIS considers the impact of the total project, although overall development of the project is proposed as a series of discreet elements with "go/no-go" decisions at the end of each element. A go decision will mean the next element will be started; a no-go decision will mean that restoration of the completed element will be implemented.

At the East SRS, initial activities would be limited to an approximately 6.4-mile gravel access road, construction of one drill pad, and drilling up to four exploration wells to assess the prospect. This access road, East Swanson Road 1 (ES-1), would run from the SRF to East Swanson Pad A (ES-A). If data from exploration wells indicate commercially viable natural gas resources, field delineation and development wells might be drilled and production facilities installed on ES-A. Pipelines and utility lines between the SRF and ES-A would be installed adjacent to the access road.

With a commercially viable discovery of natural gas at ES-A, an additional 1.9 miles of gravel road would be constructed to East Swanson Pad B (ES-B). From ES-B, directional-drilling techniques would be used to reach natural gas targets to the north and east of the pad. Discoveries of commercially viable quantities of natural gas will result in the placement of production facilities on ES-B, and installation of a buried pipeline/utility system adjacent to the gravel road to ES-A.



MWH
MONTGOMERY WATSON HARZA
ANCHORAGE, ALASKA

FIGURE ES-1

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UNOCAL - SWANSON RIVER SATELLITES
KENAI NATIONAL WILDLIFE REFUGE, ALASKA

PROJECT VICINITY

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The North SRS encompasses existing Federal oil and gas leases within the BHU. Exploration for natural gas was conducted at one BHU well (BHU 22-25) in 1965, and natural gas reserves are known to exist. Initial development will involve construction of about 3.5 miles of gravel access road. This access road, North Swanson Road 1 (NS-1), would extend northward from existing access within the SRF to BHU 22-25. The existing pad at BHU 22-25 would be enlarged to accommodate additional drilling. Production facilities would be installed on the pad, and a pipeline/utility system would be buried adjacent to the gravel access road. An additional new pad (North Swanson Pad A [NS-A]) might be required for field delineation and development. The proposed access road to BHU 22-25 is located to provide direct access to NS-A.

Each satellite development would require installation of a 4- to 10-inch pipeline, which would tie into the existing pipeline infrastructure at the SRF. Production facilities at each pad may include: a heater separator building, a glycol dehydrator building, a methanol building, a wellhouse building, a natural gas-fueled generator building, and an electrical/control building. All facilities, including gravel roads and pads, would be located and designed for removal when natural gas reserves are depleted.

Gravel for the Proposed Project would be made available from on-KNWR sources specified by the USFWS through a Special Use Permit. Two existing, and three new material sites have been identified for potential use. The existing sources contain a limited amount of available gravel, and much of that will be required for continued operation of the SRF. One new material site (G-7) has been determined to contain the volume of gravel (278,600 cubic yards [cy]) necessary for the Proposed Project. Development of Material Site G-7 would require clearing and excavation over an area of approximately 19 acres, to a depth of 18 feet. The two other potential new material sites have not been fully evaluated, but are attractive due to their location along the proposed route, thereby reducing haul distances and associated impacts.

Full development of all elements of the Proposed Project would include: construction of 11.7 miles of new gravel roads, an adjacent buried pipeline/utility system, an additional 1.9 miles of buried pipeline/utility system within the SRF, three new drill pads, and upgrading a fourth drill pad. Full development would require approximately 278,600 cy of gravel from USFWS-designated material sites.

PROJECT PURPOSE AND NEED

The purpose of the Proposed Project is to explore for new natural gas reserves and to bring new natural gas reserves discovered into production to meet the rising energy needs of Cook Inlet area consumers. The Cook Inlet area of South-central Alaska currently produces more than 225 billion cubic feet of natural gas per year for consumption and export. More than 60 percent of Alaskans currently rely on natural gas from the Cook Inlet area to generate electricity and to heat homes and businesses.

The gas resources in the East SRS are owned by CIRI through ANCSA conveyances. CIRI also enjoys a royalty interest in gas production from the North SRS through their partial ownership of the Federal lease encompassing the BHU, including Well BHU 22-25. The primary purpose of the conveyances was to fulfill

CIRI's ANCSA entitlement to land and other resources that can be developed for economic benefit. Revenues from the Proposed Project will benefit CIRI, it's shareholders, and the other Alaska Native regional corporations.

The natural gas resources in the North SRS have been leased by the Federal government within the BHU. Development of these resources will benefit the leaseholders and, along with the East SRS production, will provide numerous spin-off benefits to the national, state, and local economies.

THE NO ACTION ALTERNATIVE

The No Action Alternative is considered in this FEIS as required by NEPA. The No Action Alternative means that a ROW would not be granted by the USFWS, a Section 404 Permit would not be granted by the USACE, and associated natural gas resources would not be developed. The USFWS does not have the authority to implement the No Action Alternative for this project; however, other agencies may not be constrained in the same way by ANILCA.

The natural gas resources that are proposed for development are either privately owned, or have been previously leased, thereby constituting valid inholdings within the KNWR. Federal regulations require that the owners of valid inholdings be provided adequate and feasible access for economic and other purposes, subject to reasonable regulation to protect Refuge resources. However, the No Action Alternative establishes a baseline from which to compare action alternatives.

ACTION ALTERNATIVES CONSIDERED

A broad range of alternatives for Proposed Project development was considered. Alternatives that did not meet the purpose and need for the project, or could not be considered adequate and feasible access, were not carried forward for detailed analysis.

For East SRS, several combinations of alternative access and adjacent pipeline/ utility system alignments (Segments) and drilling/production pads are evaluated. For North SRS, an alternative road route is evaluated. Alternative alignments considered are identified in Figure ES-1.

Alignment Alternative East Swanson Road 2 (ES-2) initially follows the same route as proposed ES-1 to ES-A. ES-2 then follows a longer route for approximately 1.2 miles around the east and north sides of Krein Lake to East Swanson Pad C (ES-C – a third pad for more direct drilling to target gas deposits from the more northern route), then travels south approximately 0.75 miles to ES-B. ES-2 is longer than ES-1 by approximately 1.5 miles (8,260 feet), and includes two additional turnouts and an additional drill pad. This will require an additional 42,800 cy of gravel, but provides the advantage of placing the drill pad near the target zone, rather than relying on directional drilling from ES-B.

Alignment Alternative East Swanson Road 3 (ES-3) begins at the edge of the SRF, and runs east for approximately 7.4 miles to ES-B. The basic difference from the proposed alignment (i.e., ES-1), is that ES-3 follows an existing, reclaimed road for 1.3 miles, then follows the same route as ES-1 to ES-A and ES-B. This route is shorter than ES-1 by approximately 0.9 miles (4,350 feet) and requires 13,800 fewer cy of gravel. Existing

infield SRF pipelines might not have the capacity to transport gas from both East SRS and North SRS. Therefore, ES-3 might require construction of approximately 2.3 miles of additional pipeline from where it begins in the SRF south to Tank Setting 1-27, depending on the volume of gas produced.

Alignment Alternative East Swanson Road 4 (ES-4) follows the ES-3 route from the SRF, and then follows ES-1 to ES-A. From there, it runs north around Krein Lake to ES-C and then south to ES-B. Total distance will be approximately 0.7 miles (3,908 feet) more than ES-1 and will require approximately 26,600 cy of additional gravel. Alternative ES-4 will also require additional pipeline/ utility system construction to Tank Setting 1-27, as described for ES-3.

Alignment Alternative North Swanson Road 2 (NS-2) begins at the northern end of the SRF, and runs approximately 5.9 miles to NS-A. This alternative follows an existing "winter trail" that was originally used for exploration at BHU 22-25. NS-2 follows the winter trail north, passing 660 feet west of a small lake, and continues north before turning east around the north end of Scaup Lake, and then south to BHU 22-25, for a total of 4.7 miles. From BHU 22-25, the route continues south for 1.2 miles through undisturbed land to NS-A. Alternative NS-2 is 2.5 miles (13,376 feet) longer than NS-1 and has an additional seven turnouts. Therefore, NS-2 will require 43,100 more cy of gravel than NS-1. This alignment also might necessitate a separate, more direct ROW for the buried pipeline/utility system along the NS-1 alignment.

In addition to the five existing or potential gravel sources located on the KNWR, off-Refuge gravel sources were also considered, including several existing commercial gravel sources in the Sterling/Soldotna area. Similarly, the use of United States-owned gravel sources underlying TNC lands was also considered, although no discreet source has been identified.

Alternatives that were dismissed from further consideration were presented in the DEIS. These include: alternative access road alignments, pipeline alignments, material sites, and pad locations; helicopter access; ice road access, and the use of synthetic matting for roads and pads. These alternatives were considered, but rejected from further evaluation because they were determined to be technically or economically infeasible.

ENVIRONMENTAL CONSEQUENCES

The DEIS presented an analysis of the environmental consequences of the Proposed Project and each of the five alternatives, including the No Action Alternative. Impacts are categorized as either significant or insignificant. The DEIS also described cumulative impacts, mitigation measures, the relationship between short-term uses of the environment and long-term productivity, and irreversible or irretrievable commitments of resources should the Proposed Project be implemented.

Direct, indirect, and cumulative impacts to the environment will occur as a result of the Proposed Project. Impacts might occur during any phase of the project, including construction, operation, maintenance, removal of facilities, and restoration. Some of these impacts will be of short duration (usually during construction), and some will occur over the life of the project. Most impacts can be avoided or minimized by following proper design and construction procedures and by compliance with

regulatory requirements, including permit stipulations from federal and state regulatory agencies. The ultimate significance and duration of impacts will be influenced by efforts to detect and correct them, and to repair and rehabilitate the damaged environment.

The potential for some project-related impacts to be significant in either the short-term or long-term (or both) depends on the magnitude and duration of the impact. Some potentially significant impacts generally have a low probability of occurrence, but if they do occur, the consequences and potential risk to the environment could be great. Other potentially significant impacts have a high probability of occurrence. The risk to the environment from potentially significant impacts can be somewhat mitigated by proper attention to prevention measures. The potential for significance of impacts to KNWR resources is elevated through the context of a national wildlife refuge.

The Proposed Project includes development of both the East SRS and North SRS. The proposed ES-1 and NS-1 routes must be considered together to understand the full impact of the Proposed Project. Some of the potentially significant impacts of the Proposed Project have been avoided by including site selection, design, and procedural measures. For example, a new crossing of the Swanson River was avoided as a result of project design changes resulting from input received through the public scoping process.

Significant impacts on a variety of resources will result from clearing of up to 184.2 acres of land, disturbance of 23.17 acres of wetlands, development of gravel resources, and placement of gravel for roads and drill pads. Significant impacts to KNWR resources will be mitigated over time, when Proposed Project roads and pads are removed and restored in accordance with permit requirements.

Among the most significant potential project-related impacts are those affecting brown bears and other wildlife. Wildlife impacts will occur over the life of the Proposed Project and could be difficult to fully mitigate. Adverse impacts on vegetation, wetlands, land use, and recreation are also considered to be potentially significant.

Potential impacts of the Proposed Project on air quality, topography, geology, gravel, soils, water quantity, hydrology, water quality, fish, amphibians, threatened and endangered species, land ownership, cultural resources, visual resources, and subsistence are considered to be insignificant.

The Proposed Project will also add incrementally to already significant cumulative adverse impacts to fish and wildlife resources on KNWR, particularly brown bears.

Environmental consequences of alternatives are generally similar to the Proposed Project, but vary in degree depending on increased or decreased road and pipeline miles, pads and turnouts, and area filled with gravel or where vegetation is disturbed.

MITIGATION MEASURES

Mitigation measures have been adopted as part of the Proposed Project, or may be applied to the Proposed Project by ROW Permit stipulations. Mitigation measures are implemented in order to reduce the significance of direct, indirect, or cumulative adverse environmental impacts. Most impacts can be mitigated by adherence

to laws and regulations, permit stipulations, or commonly followed best management practices. In order to further mitigate potentially adverse impacts to KNWR resources, stipulations will be incorporated in the ROW Permit, a list of which is included in this FEIS.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

Based on the analyses presented in the DEIS and supplemented in this FEIS, the USFWS has identified an environmentally preferred alternative that minimizes adverse impacts to the purposes and resources of the KNWR, while satisfying the statutory requirement to provide adequate and feasible access to the applicant. The environmentally preferred alternative is comprised of Alignments ES-3 and NS-1, which provide access to the East SRS and North SRS, respectively (Figure ES-2).

In compliance with requirements of the Terms and Conditions Agreement, gravel for the East SRS will be provided from KNWR sources. First priority will be gravel reclaimed from existing roads and pads on the KNWR. If reclaimed gravel is not available, gravel will initially be provided through development of Material Site G-7. However, the Refuge Manager may authorize subsequent development of Material Sites G-3 and G-4.

For the North SRS, which is not subject to the Terms and Conditions Agreement, the environmentally preferred alternative includes using gravel from reclaimed and off-KNWR sources. However, use of United States-owned gravel underlying TNC lands may be authorized, after a specific application has been made, and if such proposed use is found to be consistent with applicable regulations and policies.

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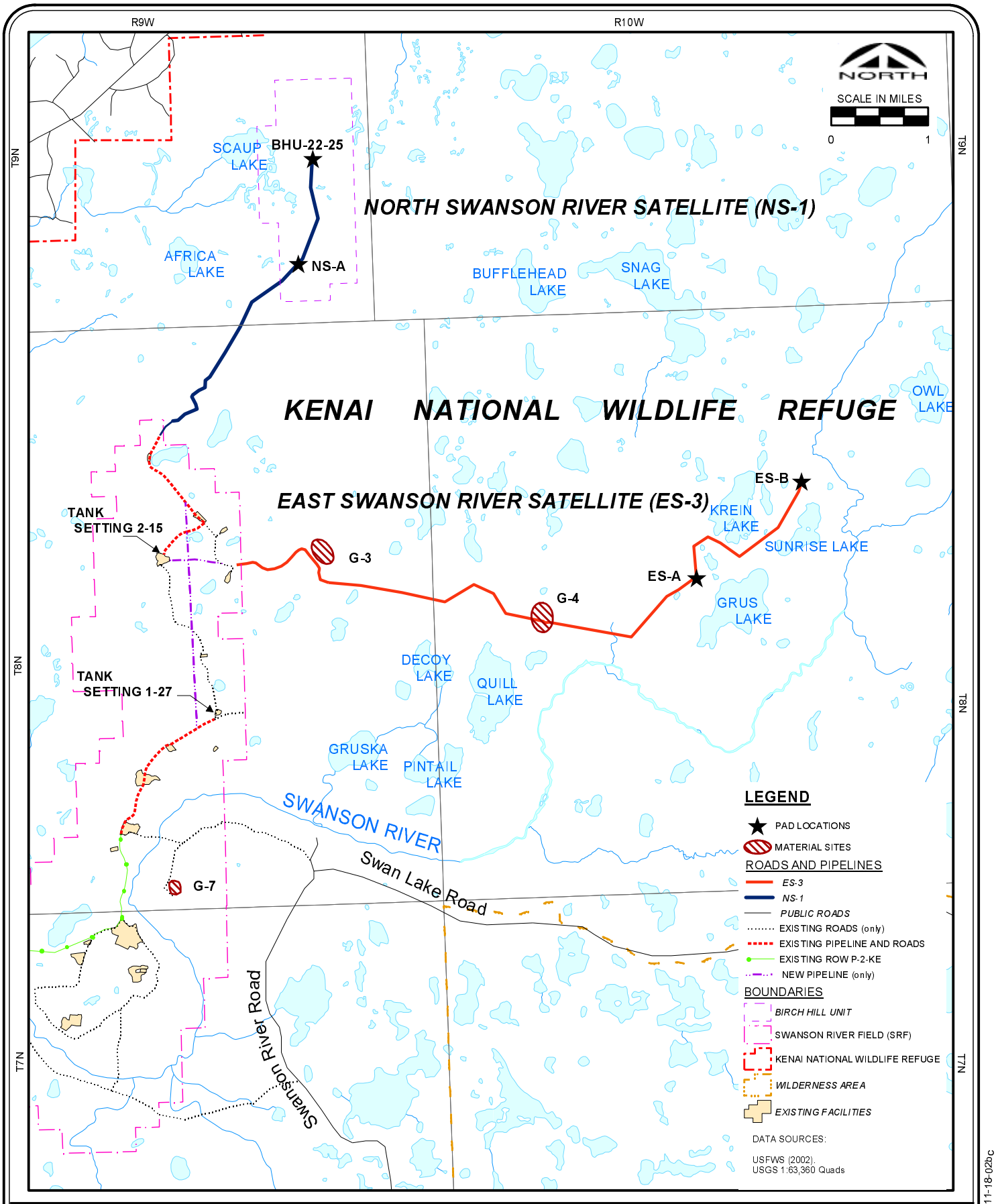

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FIGURE ES-2

UNOCAL - SWANSON RIVER SATELLITES
KENAI NATIONAL WILDLIFE REFUGE, ALASKA

ENVIRONMENTALLY PREFERRED ALTERNATIVE

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